

Also, Applicant has corrected the problems found in line 3 of Claim 18 where text was both underlined and struck-through and corrected the indefiniteness problem of Claim 18 relating to antecedent basis under 35 U.S.C. 112, second paragraph for "the means for pressurizing the upstream area".

Applicant gratefully acknowledges that Claims 6-9 and 12 are allowed.

The Examiner has objected to Claims 3-5, 11, 13-15, and 17 but has stated that these claims would be allowable if rewritten in independent form. Also, the Examiner stated that Claim 18 would be allowable if rewritten to overcome the indefiniteness problem cited above and also rewritten in independent form. Applicant has rewritten each of these claims as suggested by the Examiner and these claims are believed to now be allowable.

Finally, Claims 1, 2, and 10 are rejected as anticipated by Nedderman. In making this rejection, the Examiner states that it is intrinsic that a spring provides a response similar to the movement of the inner nozzle member in proportional response to variation in pressure of supply water. Applicant respectfully disagrees.

Nedderman teaches use of a spring to move the inner sleeve and, as more fully explained hereafter, the spring of Nedderman does not provide a response similar to the movement of the inner nozzle member of the present invention and the spring pressure can not be regulated as can the constant upstream pressure provided in the present invention.

Nedderman has a spring that causes the system pressure to increase with increasing flow. The moving element, i.e. the inner sleeve or valve, moves or opens in response to increasing pressure as a result of increased flow. As the valve

element moves in response to increasing flow, the spring is compressed. Thus the spring force increases due to higher compression. The end result is that with an increase in flow, the regulated pressure also increases. This means that in the Nedderman device, the pressure is not held constant while flow changes, i.e. while flow increases or decreases. Nedderman's device will cause the pressure to increase as flow increases and, depending on the spring rate, this increase in pressure can be considerable. Nedderman's device responds proportionally to changes in flow by moving the valve element and that changes system pressure. Thus, both valve position and system pressure are affected by changes in flow in Nedderman.

In contrast, the present invention responds proportionally to changes in flow by moving the valve element while maintaining the system pressure constant regardless of flow. The present invention maintains a constant upstream pressure. Thus a constant differential pressure is maintained across the valve. A constant pressure differential means that a constant velocity through the valve is maintained regardless of flow. The present invention does move in response to pressure. For example, if the flow increases, the upstream pressure will increase, but this will cause the valve to open more. The valve will move to a position that will reestablish the original pressure. Thus, with steady state conditions, the pressure will be held constant. The pressure will vary above or below the set point only temporarily while it makes adjustments to flow.

To make clear the difference between the present invention and Nedderman, Applicant has amended claims 1 and 10 to specify that the system pressure is

maintained constant as changes in flow cause the nozzle member to move within the housing. Because claim 2 is dependent upon claim1, it also includes this limitation.

Also, with the present invention, an operator can remotely regulate the control pressure by a number of means, including manual or automatic means, which can in effect be used to control the process rate. With Nedderman, remote or manual control is not possible because of the fixed spring.

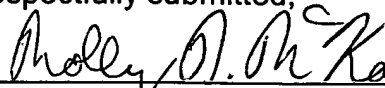
Thus, the spring of Nedderman is not equivalent to the regulated upstream pressure of the present invention since it neither functions like the present invention nor can be operated like the present invention.

In summary, Applicant has canceling non-elected Claim 19, corrected the problems found in line 3 of Claim 18 where text was both underlined and struck-through, corrected the indefiniteness problem of Claim 18 relating to antecedent basis, rewritten Claims 3-5, 11, 13-15, 17 and 18 in independent form as recommended by the Examiner, and has amended Claims 1 and 10 and provided arguments in opposition to the Examiner's rejection of Claims 1, 2, and 10 based on these claims being anticipated by Nedderman. The Examiner has allowed Claims 6-9 and 12.

It is believed that this application is now in condition for allowance, and such action is earnestly solicited.

The Commissioner is hereby authorized to charge any additional fees to the deposit account of the undersigned, No. 13-0470.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Molly D. McKay", is written over a horizontal line.

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